

Kalabasfontein Project Impact Significance Ratings-Hydrology

IMPACT DESCRIPTION			PRE - MITIGATION						POST - MITIGATION						IMPACT PRIORITISATION							
Impact	Alternative	Phase	Nature	Extent	Duration	Magnitude	Reversibility	Probability	Pre-mitigation ER	Nature	Extent	Duration	Magnitude	Reversibility	Probability	Post-mitigation ER	Confidence	Public response	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
Reduction in stream flow	Alternative 3	Construction	-1	2	5	4	4	5	-18,75	-1	2	3	3	4	3	-9	Medium	1	1	1	1,00	-9,00
Deterioration of water quality	Alternative 3	Construction	-1	2	5	4	4	5	-18,75	-1	2	3	3	4	3	-9	Medium	1	1	1	1,00	-9,00
Altered hydrological regimes	Alternative 3	Construction	-1	2	5	4	4	5	-18,75	-1	2	3	3	4	3	-9	Medium	1	1	1	1,00	-9,00
Potential for flood lines to negatively affect the surface area of the mine	Alternative 3	Construction	-1	2	5	4	4	5	-18,75	-1	2	3	3	4	3	-9	Medium	1	1	1	1,00	-9,00
Decreased infiltration and increased run-off	Alternative 3	Construction	-1	2	5	4	4	5	-18,75	-1	2	3	3	4	3	-9	Medium	1	1	1	1,00	-9,00
Damage to Wetland/ Drainage Lines	Alternative 3	Construction	-1	2	5	4	4	5	-18,75	-1	2	3	3	4	3	-9	Medium	1	1	1	1,00	-9,00
Impacts on wetlands	Alternative 3	Construction	-1	2	3	4	3	5	-15	-1	2	3	3	3	3	-8,25	Medium	1	1	1	1,00	-8,25
Surface water pollution or contamination	Alternative 3	Construction	-1	2	3	4	3	4	-12	-1	2	3	3	3	3	-8,25	Medium	1	1	1	1,00	-8,25
Reduction in stream flow	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Deterioration of water quality	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Altered hydrological regimes	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Potential for flood lines to negatively affect the surface area of the mine	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Decreased infiltration and increased run-off	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Damage to Wetland/ Drainage Lines	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Impacts on wetlands	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Surface water pollution or contamination	Alternative 3	Operation	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Reduction in stream flow	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Deterioration of water quality	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Altered hydrological regimes	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Potential for flood lines to negatively affect the surface area of the mine	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Decreased infiltration and increased run-off	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Damage to Wetland/ Drainage Lines	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Impacts on wetlands	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Surface water pollution or contamination	Alternative 3	Rehab and closure	-1	2	3	4	3	4	-12	-1	2	2	3	3	3	-7,5	Medium	1	1	1	1,00	-7,50
Reduction in stream flow	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Deterioration of water quality	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Altered hydrological regimes	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Potential for flood lines to negatively affect the surface area of the mine	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Decreased infiltration and increased run-off	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Damage to Wetland/ Drainage Lines	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Impacts on wetlands	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Surface water pollution or contamination	Alternative 2	Construction	-1	2	4	4	4	4	-14	-1	2	3	4	4	3	-9,75	Medium	1	1	1	1,00	-9,75
Reduction in stream flow	Alternative 2	Operation	-1	4	5	4	4	5	-21,25	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Deterioration of water quality	Alternative 2	Operation	-1	4	5	4	4	5	-21,25	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Altered hydrological regimes	Alternative 2	Operation	-1	4	5	4	4	5	-21,25	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Potential for flood lines to negatively affect the surface area of the mine	Alternative 2	Operation	-1	2	5	4	4	5	-18,75	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Decreased infiltration and increased run-off	Alternative 2	Operation	-1	4	5	4	4	5	-21,25	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Damage to Wetland/ Drainage Lines	Alternative 2	Operation	-1	4	5	4	4	5	-21,25	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Impacts on wetlands	Alternative 2	Operation	-1	4	5	4	4	5	-21,25	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Surface water pollution or contamination	Alternative 2	Operation	-1	2	5	4	4	5	-18,75	-1	3	4	4	4	4	-15	Medium	1	1	1	1,00	-15,00
Reduction in stream flow	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Deterioration of water quality	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Altered hydrological regimes	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Potential for flood lines to negatively affect the surface area of the mine	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Decreased infiltration and increased run-off	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Damage to Wetland/ Drainage Lines	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Impacts on wetlands	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Surface water pollution or contamination	Alternative 2	Rehab and closure	-1	2	5	4	4	5	-18,75	-1	2	4	4	4	4	-14	Medium	1	1	1	1,00	-14,00
Reduction in stream flow	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Deterioration of water quality	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Altered hydrological regimes	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Potential for flood lines to negatively affect the surface area of the mine	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Decreased infiltration and increased run-off	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Damage to Wetland/ Drainage Lines	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Impacts on wetlands	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Surface water pollution or contamination	Alternative 1	Construction	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Reduction in stream flow	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Deterioration of water quality	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Altered hydrological regimes	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Potential for flood lines to negatively affect the surface area of the mine	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Decreased infiltration and increased run-off	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Damage to Wetland/ Drainage Lines	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Impacts on wetlands	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Surface water pollution or contamination	Alternative 1	Operation	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1,00	0,00
Reduction in stream flow	Alternative 1	Rehab and closure	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1				

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IMPACT DESCRIPTION			PRE - MITIGATION					POST - MITIGATION					IMPACT PRIORITISATION									
Impact	Alternative	Phase	Nature	Extent	Duration	Magnitude	Reversibility	Probability	Pre-mitigation ER	Nature	Extent	Duration	Magnitude	Reversibility	Probability	Post-mitigation ER	Confidence	Public response	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
Decreased infiltration and increased run-off	Alternative 1	Rehab and closure	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1.00	0.00
Damage to Wetland/ Drainage Lines	Alternative 1	Rehab and closure	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1.00	0.00
Impacts on wetlands	Alternative 1	Rehab and closure	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1.00	0.00
Surface water pollution or contamination	Alternative 1	Rehab and closure	-1	1	1	1	1	1	0	-1	1	1	1	1	1	0	Medium	1	1	1	1.00	0.00